

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

ref for 394A PCT

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C12N 5/00	A2	(11) International Publication Number: WO 00/43498 (43) International Publication Date: 27 July 2000 (27.07.00)
(21) International Application Number: PCT/US00/01116 (22) International Filing Date: 19 January 2000 (19.01.00) (30) Priority Data: 60/116,331 19 January 1999 (19.01.99) US (71) Applicant: UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL [US/US]; Office of Technology Development, Campus Box 4105, 308 Bynum Hall, Chapel Hill, NC 27599-4105 (US). (72) Inventors: REID, Lola, M.; 3621 Sweeten Creek, Chapel Hill, NC 27514 (US). KUBOTA, Hiroshi; 273 Summerwalk Circle, Chapel Hill, NC 27514-8668 (US). MOSS, Nicholas; 104 Quail Roost Drive, Carrboro, NC 27510 (US). (74) Agents: POULIQUEN, Corinne, M. et al.; Pepper Hamilton LLP, 600 Fourteenth Street N.W., Washington, DC 20005-2004 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: HUMAN LIVER PROGENITORS		
(57) Abstract <p>Methods of isolating and cryopreserving progenitors from human liver are disclosed which include processing human liver tissue to provide a substantially single cell suspension comprising progenitors and non-progenitors of one or more cell lineages found in human liver; subjecting the suspension to a debulking step, which reduces substantially the number of non-progenitors in the suspension, and which provides a debulked suspension enriched in progenitors exhibiting one or more markers associated with at least one of the one or more cell lineages; and selecting from said debulked suspension those cells, which themselves, their progeny, or more mature forms thereof express one or more markers associated with at least one of the one or more cell lineages. Among these markers are CD14, CD34, CD38, CD45, and ICAM. Hepatic progenitors are characterized as being 6-15 μ in diameter, diploid, glycophorin A⁻, CD45⁻, AFP⁺⁺⁺, ALB⁺, ICAM⁺ and with subpopulations varying in expression of CD 14⁺, CD34⁺⁺, CD38⁺⁺, CD117⁺. These progenitor subpopulations have characteristics expected for cells that are particularly useful in liver cell and gene therapies and for establishing bioartificial organs.</p>		